



### \*\*\* QDG DIGIPEAT July 2017 \*\*\*

Digipeat is the Official Newsletter of the Queensland Digital Group  
Incorporating 'Amateur Eye', the Official Newsletter of the  
South East Queensland Amateur Television Group

## July QDG Meeting

The Next QDG general meeting will be held on Friday July 21 at the **Chermside Library**,  
375 Hamilton Rd, Chermside QLD 4032

**Car park off Kittyhawk Drive**

Doors will open at 7:00pm for a meeting start of 7:30pm.

If the door is closed please phone Alan 0401 716 778

## Editorial

### **Change of meeting venue back to the NEW Chermside Library**

Due to popular demand, the QDG meetings have moved to the new Chermside Library from the April meeting.

This means I will be looking for members to share picking up the access card and a supper person for each month.

Alan VK4NA

## VK3YEdot com

vk3ye dot com is about amateur radio and practical electronics. Keep reading if you like building small radio transmitters and receivers, operating low power or transmitting from the great outdoors. Many articles and videos are for the radio beginner.

<http://www.vk3ye.com/>

## Broadcast and shortwave radio listening

Shortwave listening is an activity whose participants specialise in receiving radio signals from around the world. Signals may include international broadcasters (eg BBC, Voice of America, Radio Japan, Radio Australia), maritime and aircraft communications, pirate broadcasters, military operations and amateur and CB radio activity.

<http://home.alphalink.com.au/~parkerp/shortwave.htm>



## ANAN-7000DLE 100W HF & 6M Transceiver

The ANAN-7000DLE HF & 6M 100W SDR Transceiver offers top of the line performance in a compact rugged package, it is based on the work of the OpenHPSDR community.

The radio uses the Orion MKII and has an entirely redesigned transmit chain keeping in mind PureSignal (Predistortion), the result is astounding IMD performance, typical IMD on 20M (with PureSignal enabled) is -62dB or -68dB below PEP output.

The receiver includes two phase synchronous front ends to enable Diversity reception, receiver RMDR is class leading (116dB @ 2KHz offset).

<https://apache-labs.com/al-products/1050/ANAN-7000DLE-100W-HF--6M-Transceiver.html>



## The latest from SDRplay

<http://www.sdrplay.com/blog/>

## PyBOMBS – The What, the How and the Why

For a few years now, GNU Radio has had its own “package manager”, PyBOMBS. Nearly a year ago, development was started to completely rewrite PyBOMBS, and we switched over to the new version a few months ago. Finally, the dust is settling for version 2 of PyBOMBS, it’s becoming more and more stable, and more widely adopted. Soon, we will be releasing PyBOMBS 2.1.0. As such, this is a great time to formally introduce the world to the new PyBOMBS.

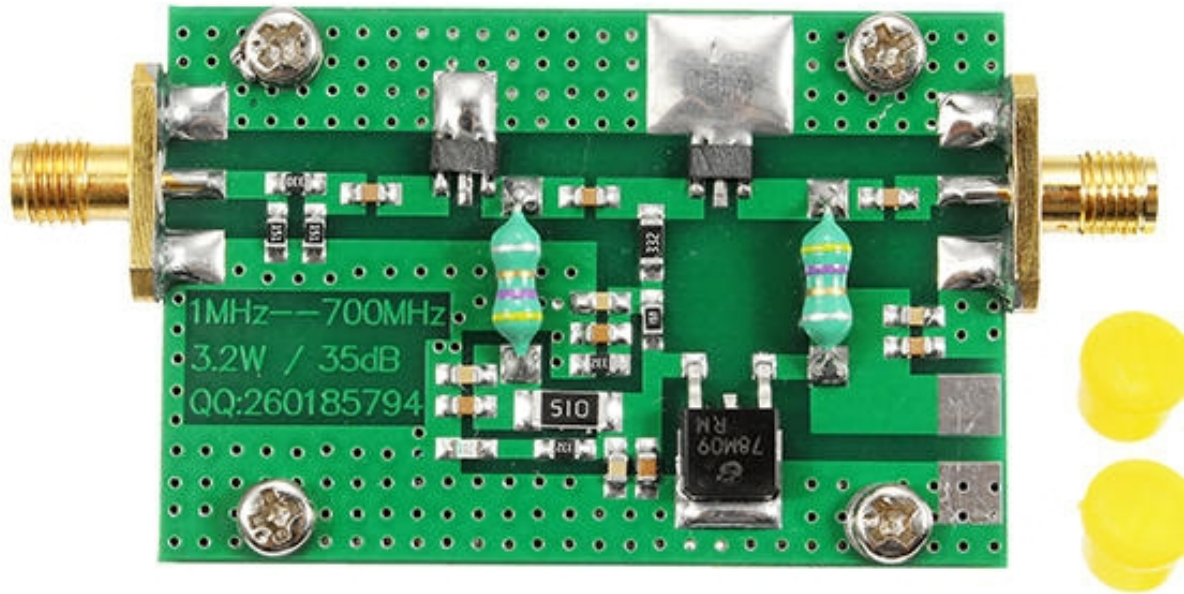
<https://www.gnuradio.org/blog/pybombs-the-what-the-how-and-the-why/>

## PstRotator - Software for Antenna Rotators

PstRotator supports separate antenna rotator controllers for Azimuth and Elevation control. It can control two separate rotor interfaces: one for azimuth and the second for elevation, or it can control a single azimuth + elevation rotor interface.

Connect the rotator interfaces to PC using the RS232 ports or USB to serial converters, and select the communication ports from the available COM Ports.

<http://www.pstrotator.com/>



## 1MHz-700MHZ 3.2W HF VHF UHF FM Transmitter RF Power Amplifier For Ham Radio

[https://m.banggood.com/1MHz-700MHZ-3\\_2W-HF-VHF-UHF-FM-Transmitter-RF-Power-Amplifier-For-Ham-Radio-p-1167481.html?rmmds=category](https://m.banggood.com/1MHz-700MHZ-3_2W-HF-VHF-UHF-FM-Transmitter-RF-Power-Amplifier-For-Ham-Radio-p-1167481.html?rmmds=category)

## Antenna Controller

Programmable controller antenna in accordance with the protocol OTRSP ver 2.3+ with Bluetooth  
NEW !!!!!!!!!!!!!

I present another version of the driver marked as version v2.3 + addition to all the functionality of the previous version of the driver, there has been the possibility of wireless control via Bluetooth. This solution provides the best separation circuit antenna from the computer. After the device is paired with your computer system, there is a new virtual COM port (the same as when connected via USB) to which you need to set our control software. The connection range is approximately 10 meters. In Windows 7 and above and Linux, they do not require additional (external) drivers. There is also the possibility FACILITIES Bluetooth capabilities of the previous version of the driver v2.1

<http://sp6cyn.pl/?op=konstrukcje>

## Four-Foot Stealth Antenna

The Four-Foot Vertical is a stealth Magnetic Wire Loop antenna for 20 meters band

<http://www.dxzone.com/cgi-bin/dir/jump2.cgi?ID=32750>

## DIAMOND X510N 2m/70cm antenna MODIFICATION

<https://pa0fri.home.xs4all.nl/Ant/X510N/Diamond%20X510N%20modification.htm>



Some of Bob VK4ZL antenna farm

## Petya Ransomware

Alert (TA17-181A)

Microsoft Windows operating systems

On June 27, 2017, NCCIC was notified of Petya ransomware events occurring in multiple countries and affecting multiple sectors. Petya ransomware encrypts the master boot records of infected Windows computers, making affected machines unusable.

<https://www.us-cert.gov/ncas/alerts/TA17-181A>

## TELEGRAPHKEYS.COM

A comprehensive timeline of telegraph instruments in photographs.

<http://www.telegraphkeys.com/>



## Brisbane VHF Group 10 GHz Shootout July 2017

The test morning was held at the Redcliffe Radio Club.



## GPS Disciplined Oscillator - Coming soon

Plug a GPS Antenna in and get 2 independent RF channels programmable from 1 KHZ to 1027 MHZ differential or single ended.

Sync your test equipment, provide an accurate, stable and ultra-low-phase-noise to your analog or SDR XCVR, upconverter, beacon, DDS, ADC, DAC, etc.

<https://www.sv1afn.com/projects.html>



## TinyTrak4

TinyTrak4 takes the features of the popular Byonics TinyTrak3Plus and adds...

DSP Packet Decoding - Using software DSP, the TinyTrak4 can not only decode 1200 baud packet, but also 9600 baud (9600 encode in development). Since the decoding is not hardware based, new demodulation capabilities will be added to

existing TinyTrak4s.

APRS Digipeating - The TinyTrak4 can act as a smart APRS digipeater supporting WIDEn-N, callsign substitution, and dupe checking.

KISS TNC - Connect to a computer and operate standard packet, Winlink, and any of the APRS software.

APRS Messaging - Send and receive APRS messages with the optional display and keyboard.

Analog & Digital Telemetry - TinyTrak4 can read temperature, battery voltage, and other analog and digital sources.

Field Upgradeability - New firmware can be downloaded for free from the TinyTrak4 website and sent to the TinyTrak4 with a computer serial port and a F-F null modem adapter.

<https://www.byonics.com/tinytrak4/>

## The Amateur Amateur

The Amateur Amateur is a column about my experiences in ham radio. Since I have little technical expertise and not much knowledge of electronics, I make a lot of mistakes. I consider myself to be just an amateur amateur radio operator, but I keep pressing on and trying new things. This column details my triumphs - and foibles - and I try not to take myself too seriously. Whether you are an experienced ham or new to the hobby, I hope you find these chronicles of my efforts to be entertaining.

Gary Ross Hoffman, KBOH

<http://www.the-amateur-amateur.com/>

## A High Efficiency Extended Length Mobile Antenna

The antenna itself is 3.42 meters or 11 feet 2 inches long from the top of the mounting spring to the tip.

[http://w5jgv.com/mobile\\_antenna/](http://w5jgv.com/mobile_antenna/)

## GNU Ring

If you're sick of Skype for Linux's lack of progress, or rankled by the imminent retirement of the older (but superior) Qt Skype client, there's a GNU alternative in town called Ring.

GNU Ring is a cross-platform, privacy-minded communication app that is fast gaining a following in FOSS and security-conscious circles.

Like an open-source alternative to Skype sans the baggage that Microsoft's VoIP client comes saddled with, Ring is not only able to do most of what Skype can do, but does it in a secure, reassuringly private way:

Voice calls

Conference calls

Video calls

Instant messaging

All of these features work across devices, too. It doesn't matter if your mates are using Ring for Windows, or Ring for Android. So long as they're on Ring you can, well, ring 'em!

Ring works over a distributed peer network. This means it doesn't rely on one big centralized server that stores all your details, call history and account info. Instead, the service uses distributed hash tables to establish communication.

The Ring website touts end-to-end encryption with authentication (sic), manages identity with X.509 certificates, and is based on RSA/AES/DTLS/SRTP technologies

<https://plus.google.com/+gregbatmarx/posts/T3DH8aWVwyc>

## skype-alternative

Ring is a Privacy-Focused, Open-Source Skype Alternative

<http://www.omgubuntu.co.uk/2017/06/ring-linux-skype-alternative>

## Transistor Sizing Calculation

Two common ways of using a transistor is as an analog amplifier, or a digital switch. We are most interested in the digital switch mode of a transistor in our projects.

<http://arduinotronics.blogspot.com.au/2017/06/transistor-sizing-calculation.html?m=1>

## HackRF wiki

Welcome to the HackRF wiki! For project status and information about HackRF hardware availability, visit the main HackRF page at Great Scott Gadgets.

<https://github.com/mossmann/hackrf/wiki>

## KB1OIQ - Andy's Ham Radio Linux

Ubuntu Linux remastered for Amateur Radio users

<https://sourceforge.net/projects/kb1oiq-andysham/>



## HackRF One

an open source SDR platform

HackRF One from Great Scott Gadgets is a Software Defined Radio peripheral capable of transmission or reception of radio signals from 1 MHz to 6 GHz. Designed to enable test and development of modern and next generation radio technologies, HackRF One is an open source hardware platform that can be used as a USB peripheral or programmed for stand-alone operation.

- 1 MHz to 6 GHz operating frequency
- half-duplex transceiver
- up to 20 million samples per second
- 8-bit quadrature samples (8-bit I and 8-bit Q)
- compatible with GNU Radio, SDR#, and more
- software-configurable RX and TX gain and baseband filter
- software-controlled antenna port power (50 mA at 3.3 V)
- SMA female antenna connector
- SMA female clock input and output for synchronization
- convenient buttons for programming
- internal pin headers for expansion
- Hi-Speed USB 2.0
- USB-powered
- open source hardware

<https://greatscottgadgets.com/hackrf/>

## TDK Horn Antenna 1-18 GHz

Wide band, double-ridged horn High gain, low VSWR, robust design

<http://www.dxzone.com/dx32716/microwave-101.html>



# HAMSOFT

## Linux Software for the Hamradio Community

A must for ham Linux users

<https://radio.linux.org.au/?sectpat=All>

## LONG WIRE

Long wire antenna for portable operations.

With the view to establish a quick and easy multi-band antenna deployment for portable and camping operations a simple long wire antenna with an earth or earth plus counterpoise arrangement with a 9:1 voltage unun including a tuner or simply with a tuner is one possible solution. With the 9:1 voltage unun and wire lengths suggested in the below tables the antenna should present non extreme impedances for all HF amateur band frequencies. This page is far from complete and represents the ongoing investigation into this type of antenna. Experiments to date seem to have raised more questions than obvious answers.

[http://vk6ysf.com/longwire\\_antenna.htm](http://vk6ysf.com/longwire_antenna.htm)

## Raspberry Pi HAB radio tracker software

Building Raspberry Pi HAB radio tracker software (part 2): Embedded Radio Tracker

This is the second part of a series of blog posts that follow and document my attempt to launch a high-altitude balloon (HAB) to perform aerial photography. The posts are focused on developing Linux-based software on Raspberry Pi for tracking high-altitude balloons. This post documents the internals of the tracker software called Embedded Radio Tracker.

<https://0xfeed.tech/2017/06/building-raspberry-pi-hab-radio-tracker-software-part-2-embedded-radio-tracker/>

## An unconventional Antenna Family -

the VHF/UHF Zigzag Dipoles

Although sharp focusing antennas have a high antenna gain in the main beam direction, the downside of this property is, however, that one does not hear or is not heard outside the sometimes very narrow main lobe. For this reason, in certain cases antennas with large horizontal opening angles are extremely useful.

Particularly in the case of contests, antennas have proven themselves in a stooped design, which have a large horizontal at a small vertical opening angle. For example, in the case of AGCW VHF / UHF short-term tests, such antennas are a tried and tested alternative to directional antennas. But also in the normal portable operations you can appreciate the advantages of large opening angles. For this I have used stacked oblong radiators [1] so far. For a long time, I have been working on solutions for horizontally polarized VHF antennas with large horizontal and small vertical opening angles. As the experiments show, the antennas described here can be mechanically even easier to achieve comparable antenna gains. This opens up a wide field of activity for experiments.

<http://www.qsl.net/dk7zb/zigzag/zz-Englisch.html>

## Old Ham Radio Stuff

Recently, someone asked me about a VHF SWR meter, which I built over a decade ago from widely available parts. I was lucky to find it in a dark corner of my harddisk, and decided that some of the old drawings may be useful today... so I put them here, on this website, in the hope it may be useful for someone.

[http://www.qsl.net/dl4yhf/old\\_hamradio\\_stuff/index.html](http://www.qsl.net/dl4yhf/old_hamradio_stuff/index.html)

## ACMA Radcom Database

Register of Radiocommunications Licences

[http://web.acma.gov.au/pls/radcom/register\\_search.main\\_page](http://web.acma.gov.au/pls/radcom/register_search.main_page)

## 2m SSB

Sunshine Coast 2m SSB net

19:30 Sundays on 144.300 MHz

Don't just use your equipment on field days; come up on air every Sunday.

## Brisbane 160m net

Monday nights at 7:30pm local 1.848 MHz. LSB

## SEQATV Club Net

Wednesday nights

8:00 PM EST on VK4RRC 146.925MHz repeater

## 2017 dates

22 July 2017 Caboolture Hamfest <http://www.vk4qd.net/>

9th September 2017 SUNFEST, Woombye <http://vk4wis.org/>

11th November 2017 Gold Coast Hamfest, Broadbeach Qld <http://www.gcars.com.au/hamfest-2017>

VK & ZL Ham Fests & Events for 2017 <http://www.vk4ice.com/hamfests.htm>

## Contests 2017

12th & 13th August Remembrance Day Contest

<http://www.wia.org.au/members/contests/rdcontest/>

19 August to 2400 UTC 20 August 2017 (48 hours) International Lighthouse Lightship Weekend

<https://illw.net/>

## VHF-UHF Field Days

Summer 2017 – Saturday 14 and Sunday 15 January.  
Winter 2017 – Saturday 24 and Sunday 25 June.  
Spring 2017 – Saturday 25 and Sunday 26 November.  
Summer 2018 – Saturday 13 and Sunday 14 January.  
Winter 2018 – Saturday 23 and Sunday 24 June.  
Spring 2018 – Saturday 24 and Sunday 25 November.  
Summer 2019 – Saturday 12 and Sunday 13 January.  
Winter 2019 – Saturday 22 and Sunday 23 June.  
Spring 2019 – Saturday 23 and Sunday 24 November.  
Summer 2020 – Saturday 18 and Sunday 19 January.  
Winter 2020 – Saturday 20 and Sunday 21 June.  
Spring 2020 – Saturday 28 and Sunday 29 November.

<http://www.wia.org.au/members/contests/vhfuhf/>

## QDG information

### QDG meeting dates 2017

January 20

February 17

March 17

**April 21**

**May 19**

**June 16**

**July 21**

**August 18**

**September 15**

**October 20**

**November 17**

**December 15**

Unless otherwise noted, QDG group general meetings are held on the third Friday of the month at the **Chermside Library**, Brisbane.

Doors will open at 7:00pm for a meeting start of 7:30pm.

### QDG Membership

QDG Membership is presently free.

As of June 2017 the QDG has 71 members.

Information and a list of members are up on the web site <http://www.qdg.org.au/qdgmemb.htm>

Membership forms are on the web site.

### QDG Membership services

Members receive additional 'Digipeat Extra' emails and invitations to other club activities not included in the Digipeat newsletter.

## Sound Card to Radio Interface

This computer to radio interface can be used for any audio mode including voice. The SCI provides isolation to remove earth loops as well as providing switching and level adjustment. Contact Richard VK4ZA on 07 3376 5231, email [richatkn@tpg.com.au](mailto:richatkn@tpg.com.au) or via the QDG web site. Please contact Richard if you are interested in a dual interface PC board or a mark 2 version with modified connections.

## Alan Simpson memorial home brew competition

August QDG general meeting <http://www.qdg.org.au/qdgmcs.html>

## QDG club contacts

Club contact: Alan Wills VK4NA  
Digipeat Editor: Alan Wills VK4NA  
Web site: Alan Wills VK4NA  
Web site hosting: Tim O'Donohoe  
Supper: Alan Wills VK4NA  
JOTA: John VK4CJO  
Phone: Alan Wills VK4NA 61 07 3491 8032  
Mobile: 0401 716 778  
Twitter @VK4NA

Email: [qdg@qdg.org.au](mailto:qdg@qdg.org.au)

Web site: <http://www.qdg.org.au>

Digipeat <http://www.qdg.org.au/qdgdigi.htm>

QDG  
37 Evergreen Parade  
Griffin QLD 4503  
Australia

## South East Queensland ATV group Information

### SEQATV meeting dates 2017

Please check the SEQATV [Web site](#)

Unless otherwise noted, SEQATV group general meetings are held on the first Tuesday on the month at the Redcliffe Club rooms

The club is located at MacFarlane Park in Klingner Rd, Kippa Ring.(UBD Map 91 Ref G 1)  
<https://www.google.com.au/maps/place/MacFarlane+Park,+Kippa-Ring+QLD+4021/@-27.2214151,153.0882619,17z/data=!4m2!3m1!1s0x6b93e5f47d867511:0xe926a70030364326>

## SEQATV group Membership

SEQATV group Membership is set at the AGM, please contact the secretary for the current fee.  
The membership fee remains at \$20.00 for 2016

## SEQATV group Membership services

Members receive additional 'Amateur Eye Extra' emails and invitations to other club activities not included in the Digipeat or Amateur Eye newsletters.

## SEQATV Club Net

Wednesday nights

8:00 PM EST on VK4RRC 146.925MHz repeater

## The SEQATV group Officers

### Elected officers:-

President: Arnold Youngberg VK4SU

Secretary: Bruce Jones VK4EHT

Treasurer: Andy Beales VK4KCS

### Coopted Officers:-

Callback Officer: Peter Jones VK4YAC

Vice President: Alan Wills VK4NA

Assistant Secretary Bill VK4ZWJ

Additional coopted officers will be added as required.

## SEQATV group Contact Information

South East Queensland Amateur Television Group

**PO Box 643 Kallangur, Qld 4503, Australia**

Amateur Eye (club mag) Phone: Alan Wills VK4NA 61 07 3491 8032

Email: [secretary@seqatv.org](mailto:secretary@seqatv.org)

Web site: <http://www.seqatv.org/>

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## Enjoy your hobby!

73 Alan VK4YAR / VK4NA

\*\*\* Queensland Digital Group \*\*\*

\*\*\* SEQATV group \*\*\*

\*\* Supporting Radio Communications in VK4 \*\*